

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A submount, comprising:
 - (a) a submount substrate; and
 - (b) a solder layer that:
 - (b1) is formed on the top surface of the submount substrate; and
 - (b2) has a surface roughness, Ra, of at most 0.18 μm ~~before the solder layer is melted.~~
2. (Currently Amended) A submount as defined by claim 1, wherein the solder layer has a surface roughness, Ra, of at most 0.15 μm ~~before it is melted.~~
3. (Currently Amended) A submount as defined by claim 1, wherein the solder layer has a surface roughness, Ra, of at most 0.10 μm ~~before it is melted.~~
4. (Currently Amended) A submount as defined by claim 1, wherein the solder in the solder layer has an average crystal-grain diameter of at most 3.5 μm ~~before it is melted.~~
5. (Original) A submount as defined by claim 1, wherein the top surface of the submount substrate has a surface roughness, Ra, of at most 0.10 μm .

6. (Original) A submount as defined by claim 1, the submount further comprising a solder-protecting barrier layer formed between the submount substrate and the solder layer.

7. (Original) A submount as defined by claim 6, the submount further comprising an electrode layer formed between the submount substrate and the solder-protecting barrier layer.

8. (Original) A submount as defined by claim 7, the submount further comprising between the submount substrate and the solder-protecting barrier layer:

(a) an intimate-contact layer formed such that it makes contact with the top surface of the submount substrate; and

(b) an element diffusion-preventing layer formed on the intimate-contact layer; the electrode layer being placed on the element diffusion-preventing layer.

9. (Original) A submount as defined by claim 8, wherein:

(a) the intimate-contact layer comprises titanium;

(b) the element diffusion-preventing layer comprises platinum;

(c) the electrode layer comprises gold;

(d) the solder-protecting barrier layer comprises platinum; and

(e) the solder layer comprises gold-tin-based solder.

10. (Original) A submount as defined by claim 1, wherein the submount substrate comprises an aluminum nitride-sintered body.

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11. (Cancelled)